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# LITHOGRAPHIC ABSTRACTS, JANUARY 1961

## PHOTOGRAPHY, TONE & COLOR CORRECTION

NEGATIVE COLOR. Donnell Shortell. ANPA Research Institute Inc. Mechanical Bulletin #724, August 23, 1960, pp. 123-124 (2 pages). Report from a newspaper (St. Petersburg, Florida Times) which is averaging 36 jobs a month separated in their own color lab. Two-thirds of these are negative color, and all of their own photographers use it. The reasons given for this are: 1. Quality, 2. Savings in time and materials, 3. Simplicity, easy to learn. Use and processing are described. Time from receipt of exposed color negative to separated prints for the Curtis Color Analyst is 1 1/2 to 2 1/2 hours.

ILLUMINATION FOR THE GRAPHIC ARTS - Part I. Philip E. Tobias. Modern Lithography 28, No. 9, September 1960, pp. 30-33, 135 (5 pages). Author considers subject as three topics: 1. Criteria for evaluating a light source, 2. Requirements in the Graphic Arts, 3. Available types of light sources. The first two points are covered in some detail in this installment. Light measurement is discussed in non-technical terms. Uses of light sources in the graphic arts are examined in relation to a wide variety of specific uses. 1 Illustration.

MULTIMASK FILM - Part I. F. Smith. The Lithographer and Offset Printer 56, No. 1, January 1960, pp. 27,8,30 (3 pages). A brief discussion of the use of color forming integral tri-pack photographic materials for masking purposes. Agfa "Kom-bi" and Gavaert "Multimask" are explained and compared. 2 Line Diagrams.

Part II - IBID, February 1960, pp. 15-18 (4 pages). An explanation of how separation negatives are made from positive colo. transparencies in preparation for the use of "Multimask."

Part III - IBID, March 1960, pp. 24-27 (4 pages). The use of punch and pin register methods in camera back masking, and the filtering - correcting effect of the Gavaert "Multimask" film are explained in some detail.

NOMOGRAPHIC-TYPE SLIDE RULE FOR OBTAINING SPECTRAL BLACKBODY RADIATION DIRECTLY. Charles D. Reid. The Review of Scientific Instruments 31, No. 8, August 1960, pp. 886-890 (5 pages). A nomographic type of slide rule is described from which spectral radiant emittance can be obtained directly and from which the exponential power at which the spectral radiant emittance is changing with temperature for any value of wavelength and temperature can be read. The usual quantities available on radiation slide rules are also obtainable. 8 Illustrations.

COLORTRAN - A SYSTEM OF ILLUMINATION. F. G. Wallis. The Litho-Printer 3, May 1960, pp. 247,248 (2 pages). Carbon arcs have been in use for copyboard illumination and the majority of new cameras still go out so equipped. A new lighting system is Colortran consisting of two linelites, one on each side of the copyboard and containing from 4 to 10 bulbs in each. 150 watt tungsten bulbs overvolted by means of the Colortran Converter unit. Capabilities and advantages are given. One advantage is the absence of dust as given off by arcs. 5 Illustrations.

ELECTRONIC SCANNING FOR PHOTO-LITHO. D. C. Gresham. The Litho-Printer 3, May 1960, pp. 237-239 (3 pages). Author first sets up his conception of the requirements of a completely versatile electronic color corrector. He concludes that the type that operates from uncorrected photographic separations (specifically the Crosfield

Scanatron) best meets these requirements. One reason is the control possible by hand work on the negatives before scanning. The operation of the Scanatron is described. 4 Illustrations and a tipped in example of its work.

*COLOR IMAGE SYNTHESIS WITH TWO UNORTHODOX PRIMARIES. A. Karp. Nature 184, 710-2 (8/29/59). Ansco Abstracts, Nov. 1959, p. 475. Many facts reported by Land have been verified at Cambridge University Engineering Laboratory. For example, the red-and-white primary combination causes the appearance of bluish and greenish hues on a screen or in Kodachrome photographs, although when examined in isolation each image point reveals only mixtures of red, white and black. With step wedges overlaid by a white or black network to form detached squares against a black background the projection results were monochromatic, as in Land's wedge experiments without network, but against a white background bluish-green hues appeared. With the use of gelatin filters of various colors also only mixtures of the original primaries were seen without the white background, but against white, colors were seen which were mixtures of one primary with the complementary of the other. In natural scenes highlights on glossy objects can act as white cues, and in experiments special attention was paid to the warmest spot, the coolest spot and the white cue, as filters were changed and/or light intensities varied.

PLEASING COLOR WILL DOMINATE PRINTING - First of a Three Part Series. Gyan P. Madan. Printing Production 90, No. 12, September 1960, pp. 42,43,101,102 (4 pages). Experts predict color at 75% of entire future production. Author explains reasons for pleasing color - between the extremes of quality and cost. The rest of this first installment is a detailed, step-by-step explanation of preparation for color printing by lithography from a transparency original. It is based on the use of a densitometer. 4 Illustrations.

AN INTRODUCTION TO CONTACT SCREENS. Seymour Schwartz. The American Pressman 70, No. 9, September 1960, pp. 36-38 (3 pages). Article first states the reason for screening and gives some history. The distinguishing characteristics of contact screens are the arrangement of the elements on the film and the density gradation across a single element. Screens are classified as gray or magenta and for photo-engraving or offset and are discussed in this category. The use of the screen is described briefly. 5 Illustrations, 6 References.

GOOD SCREEN POSITIVES FOR COLOR WORK. Dick Arden. The Graphic Arts Monthly 32, No. 9, September 1960, pp. 122,124 (2 pages). Good separation negatives, properly corrected electronically or by masking, often give poor reproductions because of the poor positives made from them. A check list is given for a standard procedure for producing good positives. Many factors such as density, range of negative, type of plate used, pickup of dot size, paper, ink, press, all are taken into account.

THE PRINCIPLE OF MULTIMASK AND NOTES ON PRACTICAL EXPERIENCE WITH THIS FILM. Karl Stetzer. Der Polygraph - No. 2-1960, 20 January 1960 - pp. R1, R2, R4, 3 pages (in German). 3 Illustrations.

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## PLANOGRAPHIC PRINTING PROCESSES

A SURVEY OF LITHOGRAPHIC PLATES. L. E. Lawson. The Lithographer and Offset Printer 56, No. 1, January 1960, pp. 13-16 (4 pages). This survey is made up largely of comparisons of plates using various measures: full scale commercial printing and miniature or small offset printing; length of run; costs, etc. Among those discussed are bi-metallic, zinc or aluminum, deep-etch and surface plates, photographic and hand preparation, plate coating and presensitized (available in England only in the

smaller sizes), paper plates, and Zerographic preparation.

PERIPHERIES AND PRESSURES. Anon. The Litho-Printer 3, May 1960, pp. 224-227 (4 pages). First portion of this study relates to effect on image length of wrapping a flat litho plate around a cylinder. This leads into a discussion of relative circumferences of cylinders and their effects on image length. The effect of packing and the bulges in the blanket on either side of the printing line due to the resilience of the rubber is pointed out in relation to relative cylinder diameters. 6 Illustrations.

SCUM - CAUSES AND CURES. Eric Webb. Litho-Printer 1, No. 4; 31-3 (April 1958). Abstract Bulletin of the Institute of Paper Chemistry, Oct., 1960; Vol. 31, No. 2, p. 224. Nearly all causes of scumming (bleeding, tinting, or greasing), i.e., the sticking of ink to the non-image areas of planographic plates, can be traced to one or more of 5 sources, viz., the ink, the plate, the paper, the damping soln., and mech. (machine) faults. Each of these is discussed.

HOW TO MAKE DEEP-ETCH, COPPERIZED ALUMINUM PLATES FOR OFFSET PRESSES. Charles W. Latham. Inland & American Printer and Lithographer 145, No. 6, September 1960, pp. 62,63,122 (3 pages). Uniformity of conditions, chemicals and methods is urged for uniform results. For quality plates, tight control is needed, including air conditioning. The entire process of platemaking is discussed in relation to obtaining uniform and consistent results and numerous suggestions are offered to enable such results to be obtained. Three charts relate to obtaining uniform results under changing conditions of relative humidity.

*METAL BACKED PLANOGRAPHIC PLATES. British Patent 815,471 (U.S.A. Aug. 16, 1954 and July 25, 1955). Addition to British Patent 718,525. Minnesota Mining and Manufacturing Co. Photographic Abstracts, 1960, Part 2, Abstracts 332P-659P. The Scientific & Tech. Group of the Royal Photographic Society of Great Britain, P. 108. A metal sheet preferably aluminum is made permanently hydrophilic on one side before coating with light-sensitive diazo material, in the parent case by means of inorganic material such as sodium silicate, in the present case by means of an aqueous solution of a film-forming polyacid organic polymer such as polymethacrylic acid, sodium salt of carboxymethyl cellulose, or methyl vinyl ether/maleic anhydride co-polymer.

*LIGHT-SENSITIVE LAYERS FOR PHOTOMECHANICAL REPRODUCTION. British Patent 816,382, March 15, 1957. R.G.D. Moore and P.T. Woitach (General Aniline and Film Corp.). Photographic Abstracts, 1960, Part 2, Abstracts 332P-659P, The Scientific & Tech. Group of the Royal Photographic Society of Great Britain, P. 109. Light-sensitive layers consisting of water-soluble diazo compounds coated on a metal or plastic base in absence of gelatin or other colloidal vehicle are not found satisfactory owing to poor stability of the diazo coating. Water-insoluble diazo compounds are now suggested. These are coated on the plates from organic solution and removed after exposure by washing with e.g. 1% phosphoric acid. The suggested diazo compounds are derivatives of 5-membered carbon-nitrogen rings such as pyrrolenines, isopyrazoles, iseimidazoles, isopyrazoles, triazoles, pseudoindoles and diazoindiazoles.

REMOVING AND ADDING WORK ON PLATES. Robert F. Reed (Based on a chapter of LTF's "Offset Platemaking Deep-Etch Process"). National Lithographer 67, No. 9, September 1960, pp. 34,35,62 (3 pages). Specific instructions are given, separated by plate material (zinc, aluminum, stainless steel); adding or removing, small areas or large; by hand or photographic methods, and including type matter or halftones. 2 Illustrations.

## PAPER AND INK

INK RECEPTIVITY OF PAPERS. William H. Bureau. The Graphic Arts Monthly 32, No. 9, September 1960, pp. 45,47-48 (3 pages). Papers differ in ink receptivity and require different inks for good printing. WHY? In uncoated papers, capillaries, or air spaces between fibers influence ink absorbency; and fiber preparation and paper making influence the capillaries. Sizing, loading and fillers also have an effect. In coated paper, degree of coating, smoothness of finish, pigments and binders used all influence ink receptivity.

*TRIAL MANUFACTURE OF A SMOOTHNESS TESTER WITH VACUUM AIR MICROMETER. Terumi Horii and Teijii Chino. II. J. Japan. Tech. Assoc. Pulp Paper Ind. 14, No. 5: 312-21, 327 (May 1960). (Jap.; Engl. sum.) cf. A.B.I.P.C. 29: 249-50. Improvements in the design of the smoothness tester described in the first report resulted in satisfactory reproducibility for pract. use. No appreciable personal error was evident in trial measurements; variability in the readings was attributable largely to irregularities in the paper surface. There was no appreciable difference in smoothness values obtained with two instrs. incorporating the new design features. The data obtained on uncoated papers, using a rubber-plate backing correlated with Bekk smoothness values, and the latter could be calcd. from the former without significant error in a shorter time. However, no such correlation was found for coated papers, M.G. paper, and pbd. Smoothness values obtained with the modified instr., using a glass-plate backing, showed good correlation with the printing smoothness of coated and uncoated papers and pbd., and gave a more accurate ranking of M.G. paper than did conventional printing-smoothness tests. 20 ref. Abstract Bulletin of the Institute of Paper Chemistry, Oct., 1960, Vol. 31, No. 2, p. 238.

*THE I.G.T. VESSEL PICKING TEST. P. C. Allchin. Appita 13, No. 6: 186-90 (May 1960). When the I.G.T. printability tester (I) was used to measure the picking tendency of printing papers contg. eucalyptus pulps, the results obtained did not correlate with those obtained in com. printing runs. However, satisfactory agreement between test results and com. offset prints was achieved by driving the I at const. speed, using White-Ora (gelatin cpn.) printing rollers and a non-drying black ink. The modification of I and the effect of the test on paper quality are discussed. Abstract Bulletin of the Institute of Paper Chemistry, Oct., 1960, Vol. 31, No. 2, p. 236.

*THE RIGHT PAPER FOR LITHO. Alistair Warren. Litho-Printer 1, No. 5: 17, 19 (May 1958). The principal differences between the letterpress and offset printing processes are discussed to illus. the special props. demanded of paper for use in offset printing. The requirements for these special props. are brought about primarily by the wetness of the litho process and the intimate contact into which the paper and the printing surface must be brought. Abstract Bulletin of the Institute of Paper Chemistry, Oct., 1960, Vol. 31, No. 2, p. 224.

A NEW METHOD OF FINISHING COATED PAPER. Frederick H. Frost. TAPPI 43, No. 8, August 1960, pp. 191A-193A (3 pages). A process is described in which typical, mineral coated surfaces, suitable for printing purposes, are raised to high finish levels without the brutal effect of calendering. The uncalendered coated surface is finished by passing it through a low-pressure nip under particular conditions of temperature, pressure, and moisture. The method is designed to maintain bulk, opacity, brightness, and resiliency. The process also offers an opportunity to diminish the waste and defects which are normally associated with calendering. 6 Illustrations.

A SUGGESTED METHOD FOR REPORTING THE QUALITY OF NEWSPRINT PAPER. Alfred S. Taylor. TAPPI 43, No. 4, April 1960, pp. 237A-242A (6 pages). A description of the American Newspaper Publishers Association Research Institute's testing program to isolate those physical properties that determine the printing quality of newsprint for letterpress.

RELATION OF WOOD, PULP AND PAPER QUALITY TO PRESSROOM PERFORMANCE. M. C. Collins and J. L. Barron. Pulp and Paper Magazine of Canada 61, No. 4, April 1960, pp. T-250-T-258 (9 pages). A correlation was found between groundwood burst factor and pressroom rolls per break. On this basis, an improved pressroom performance was built by increasing the groundwood pulp strength. A scheme was also developed whereby the groundwood pulp control was based on the actual paper strength and the stock freeness. Improvements, at the same time, were effected on sulphite, paper formation and wood quality to ensure maximum performance. 11 Diagrams.

MAGNETIC INK QUALITY IS DEFINED FOR CHECK PRINTERS. Anon. Printing Production 90, No. 11, August 1960, pp. 68-69 (2 pages). Report on a seminar on application of quality control of magnetic ink printing. Some points covered were: specifications, tolerances, instrumentation, statistical methods.

AN UNDERSTANDING OF PAPER PROPERTIES - An Evaluation for the Printer. Byron L. Wehmhoff. Printing Production 90, No. 11, August 1960, pp. 72,74 (2 pages). Some of the properties considered are: formation, density or air permeability, printing smoothness, gloss, surface strength, and printing ink receptivity. In order for a printer to choose good paper intelligently he should know something about these characteristics. They are each discussed briefly.

PAPER VARIATIONS DURING THE RUN. I. Scott. The Litho-Printer 3, April 1960, pp. 195, 196, 199 (3 pages). Paper variations during the run obviously are not all due to the paper, but due to changing conditions in the printer's plant. Conditions sometimes blamed to the paper include picking on the second run through the press, fluffing, register, and drying of the second printing. The first factor considered to be contributing to variations is the machine operator, then press speed, fountain solution, ink, relative humidity, temperature, and sudden changes of any condition or small changes in several conditions. Emphasis is placed on the necessity for control during the operations of printing and finishing of paper to minimize variations.

## LITHOGRAPHY - GENERAL

WHY FOOTE & DAVIES LIKES WEB OFFSET. Albert Love. Printing Magazine 84, No. 9, September 1960, pp. 91-93 (3 pages). Story on the thinking involved in the first web offset installation in a sheet house. Problems of costs, space, sales, training all enter into the problem. In the end the confidence in the press was justified in quality and speed.

WILL OFFSET PRESSES LIKE THIS PRINT TOMORROW'S NEWSPAPERS? Anon. ANPA Research Institute Inc. R.I. Bulletin, No. 162, September 2, 1960, pp. 39-40 (2 pages). The rapid development of web-fed offset printing presses during the past ten years, in this country and especially in Europe, has prompted alert newspaper publishers and production executives to ask: Is this the newspaper press of the future? The brief story that follows describes such a press. Although it has been designed for high-speed production of digest size magazines, it certainly could be adapted to newspaper or supplement production. Data are given on a new press by Levey for McCall. 2 Illustrations.

HOW WEB OFFSET CAN SERVE THE PUBLISHING INDUSTRY. B. D. Chapman. The Graphic Arts Monthly 32, No. 9, September 1960, pp. 80,82,84,86,88,90 (6 pages). (Excerpts from a talk given at the 1960 annual meeting of the Web Offset Section of PIA on April 20, 1960 in St. Louis.) Printing processes are reviewed in general terms from a publisher's viewpoint. No doubt all three major processes are here to stay, all are improving, web offset perhaps most rapidly. Some history on use of offset, both sheet and web, is given. Certain uses for web offset in publications work are listed, such as: Conversions for overseas editions; some specialized, short run work; multiple or regional editions; art or color supplements, reprints of letterpress forms, etc. Certain problems yet to be overcome are listed.

IS OUR PLANT READY FOR OFFSET PROCESS COLOR? - Part 3. PRACTICAL ASPECTS. G. H. Lytle. The American Pressman 70, No. 9, September 1960, pp. 45-48 (4 pages). This installment covers the ideal dot and its relationship to consistent tonal quality. The differences between the ideal dot and the actual dot are described and illustrated in relation to the various production steps along the way and remedies for deficiencies suggested. 18 Illustrations.

LITHO'S BIG GAIN IN PACKAGING. Michael H. Bruno. Printing Production 90, No. 12, September 1960, pp. 49,50,96,97 (4 pages). Comparisons between litho and letterpress in details specific to packaging show the advantages of litho. One is its ability to print finer screen on the rough surfaces used. Dependability of plates as developed by LTF is pointed out. Other items of interest in packaging are long life bi-metal plates, new dampening systems, disposable blankets, balanced inks, and measurements of factors influencing print quality.

IMPROVEMENTS MADE ON OFFSET PRESSES DURING THE LAST TEN YEARS. Hans Hoefer. Der Polygraph, 19-1960, 5 Oct. 1960, pp. 0-25-6 (2 pages) (in German).

THE ADVANTAGES OF PRINTING ON FOUR-COLOUR OFFSET PRESSES. Anon. The Lithographer and Offset Printer 36, No. 1, January 1960, pp. 19,22 (2 pages). A report on a study comparing printing four color runs of various lengths on one-color, 2-color, and 4-color presses. Three such examples are given, showing the total hours required for completion of order for each type of operation. The source of the study is the "Roland News" and the Roland Presses (sold in U.S.A. as Miehle presses).

GHOSTS I HAVE MET. E. W. Peacock. PATRA Journal 1, No. 2, July 1960, pp. 11, 14, 15 (3 pages). Illustration and explanation of a number of ink drying phenomena which can lead to various forms of ghosts. 9 Illustrations.

TRANSFER CYLINDERS AND DELIVERY MECHANISMS. Anon. Chapter 23 of THE HOW AND WHY OF CARTON LITHOGRAPHY. Boxboard Containers 78, No. 813, September 1960, pp. 43-45 (3 pages). A well illustrated explanation of what occurs as a sheet is transferred to and from cylinders and drums and to the delivery as the sheet passes through the press. Newer developments include sheet handling which avoids contact of a printed surface with anything but a printing surface, such as the blanket, throughout the passage through the press. 5 Illustrations.

SMALL OFFSET PRESSES SAVE MONEY FOR LARGE PRINTER. Wallace Weinress. Inland and American Printer and Lithographer 145, No. 6, September 1960, pp. 80-1 (2 pages). Savings in plate costs, washup time, press time on small jobs done for "good customers" converts loss to savings. Types of work done and equipment used are described. 5 Illustrations.

HOW TO HAVE PRACTICAL QUALITY CONTROL IN YOUR OFFSET PLANT. Robert A. Luciani. Inland & American Printer and Lithographer 145, No. 6, September 1960, pp. 56-7 (2 pages). The 3C's of quality control are cleanliness, coordination and craftsmanship. Quality control is standardization: in inks, paper, lighting, specifications for suppliers, etc. Use properly balanced inks and densitometer, constant lighting conditions; these are examples of standardization. Author carries clear through the bindery with similar suggestions.

NEW DEVELOPMENTS IN LITHOGRAPHY. Michael H. Bruno. TAPPI 43, No. 8, August 1960, pp. 44A,46A,48A,50A (4 pages). The lithographic process imposes certain restrictions on the paper that is used. A number of developments have helped to relax thes restrictions and make it possible for some lithographers to use letterpress papers. Very important ones have been the improvements in plates which have made it possible to print with much less water. New developments under investigation now show promise of narrowing the gap between letterpress and offset coated papers still further. These are (1) the Dahlgren dampening system, which allows the use of softer inks and even less water, and (2) a new disposable blanket which appears to be more compressible than conventional rubber blankets and prints with less slur. Other developments to eliminate paper complaints include studies at the Lithographic Technical Foundation and other laboratories of ink transfer and tinting and the effect of paper on color reproduction, quality, and quality control. 11 References.

IS WEB OFFSET THE ANSWER TO ALL PROBLEMS? Anon. The Litho-Printer 3, No. 9, September 1960, pp. 444-445 (2 pages). An editorial survey reflecting conditions in Great Britain. Quality equal to sheet, cost savings are mentioned. Strength in USA printing of business forms and smaller newspapers and some other fields are mentioned. A surprising amount of web offset activity in Eastern Europe is reported. Author feels that England is lagging.

## GRAPHIC ARTS - GENERAL

WRAP-AROUND PRESS EXPERIENCE. William Bradley. Printing Production 90, No. 12, September 1960, pp. 51,98 (2 pages). Report on a Harris 23 x 30 press for wrap-around plates after 3 months use. Undercut and packing figures are given. Work done was label printing on Kromekote with heat-seal fast-set synthetic ink or ethylene glycol type inks. Plates are zinc, powderless etch, from same negatives as offset. Speed is 7000 iph. Uniformity of color throughout run is excellent. Present difficulties are with limited range of plates available due to limited etching facilities. Other improvements are suggested. 1 Illustration.

RESEARCH INSTITUTES FOR THE GRAPHIC ARTS (II). Herms Baumann. Der Polygraph, 1/1960 - 5 January 1960, pp. 9-12, 14 (5 pages) (in German). Institutes covered in this installment are: (see p. 9) Institut fur Druchmaschiners und Druchverfabren der Technischers Hochschule, Darmstadt;(2 illustrations); PATRA, Leatherhead, Surrey, England (2 illustrations); ANPA Research Institute, Easton,Pa., U.S.A. (3 illustrations); and LTF, Chicago, Ill., U.S.A. (1 Illustration).

TRANSITION TO WEB PRINTING IN LETTERPRESS AND OFFSET PLANTS. Anon. Printing Production 90, No. 12, September 1960, pp. 46-47 (2 pages). A review of two talks given at the 1960 Craftsmen's Convention, by heads of two companies which had recently expanded from sheet into web printing, one offset, one letterpress. Problems involved are discussed.

PRODUCTION FUTURE OF THE WEEKLY NEWSPAPER - LETTERPRESS OR OFFSET? Richard L. Pinkerton. First of Two Parts. Printing Production 90, No. 12, September 1960, pp.

40,41,94 (3 pages). Report of the results of a survey which shows a trend toward centralized plants for several papers, and web offset. Some figures from the survey: approximately 8300 paid weeklies now, number has been decreasing, 30% are multiple publishers, 72% print products other than the papers, average age of presses was 35 yea (some twice that), 44% contemplating press purchases will change to offset, specifications of preferred offset presses are given. 3 Tables.

NINE MONTHS WITH A FILMSETTER. Anon. The Litho-Printer 3, No. 9, September 1960, pp. 460,463,465,468 (4 pages). Story on a small English specialty house which has been using a Monophoto filmsetter. Labels and specialty jobbing work are done on it. The equipment is described as a "typographer's dream." For instance, leading down to as little as 1/4 point can be decided after keyboarding and an accurate line count. Procedure has been standardized and this is described. 7 Illustrations.

NEW INTAGLIO HALFTONE METHODS. H. M. Cartwright. Process 67, No. 799, August 1960, pp. 266-267 (2 pages). One method of halftone gravure which is attracting attention is the McCorquodale-Gresham process which uses a reversal technique from continuous-tone positives. This has some advantages over the Dultgen process such as longer range, simpler planning of composite work and others. The five chief steps of the process are given. Two novel features of the process are the use of a cross-slit stop for making the halftones and the reversal technique. Other features are described. 6 references.

FDA LISTS APPROVED PACKAGING CHEMICALS. Anon. Paper, Film and Foil Converter 34, No. 3, March 1960, p. 47 (1 page). The Food and Drug Administration had approved 84 chemicals used in making food packages and containers prior to the enactment of the 1958 Food Additives Amendment. These are discussed and a list given.

ROLLERS AND PROBLEMS OF PRINTING QUALITY. Ieyasu Ichikawa. Asian Printer 3, No. 2, 1960, pp. 28-32, 72 (6 pages). In the past 15 to 20 years there has been a shift away from natural rubber, glycerine and gelatine composition rollers. Shift to natural, and then to oil resistant synthetic rubbers is related to increased press speeds. The receptivity and transfer of ink to and from various rollers, including metal, are discussed in relation to rheological studies now in progress. 4 Graphs.

HOW SHOULD I PRINT THE JOB - BY LETTERPRESS OR BY OFFSET? William Sanderson. (Abstract of address given before Fifth District Craftsmen's Conference, Toledo, Ohio, May 1960.) Printing Production 90, No. 11, August 1960, pp. 55 (1 page). The service that can be given the customer, the quality of work produced, and the cost of a given job are all dependent upon the conditions within a specific shop. Some of the conditions discussed include composition costs, platemaking facilities, distribution of work load, etc. Examples are cited, including one originally run letterpress, rerun on offset. Some necessary basic characteristics are listed.

A MODIFIED OFFSET PRESS FOR PHOTOENGRAVING RESEARCH. John Butler. The British Printer 73, No. 8, August 1960, pp. 87,89,90 (3 pages). An engraving concern needed a press for trials of wraparound letterpress plates. Requirements were: 1. Precision, 2. Interchangeable cylinders for thick and thin plates, off-press makeready, 3. Preregister of the punch and pin type, 4. No makeready, or a minimum of packing. Some of the problems of converting an offset press to meet these requirements are discussed. The plate cylinder became an inking drum. Other modifications are given and the press reported as successful. 4 Illustrations.

ROLLING FRICTION OF A HARD CYLINDER OVER A VISCOELASTIC MATERIAL. W. D. May, E. L. Morris, and D. Atack. Reprinted from Journal of Applied Physics 30, No. 11,

November 1959, pp. 1713-1724 (12 pages); Received from Pulp and Paper Research Institute of Canada. The rolling friction or a hard cylinder over a viscoelastic material is worked out in terms of the bulk properties of the material. It is found that the rolling friction has a maximum at a velocity corresponding to the peak of the relaxation time distribution. Both the load required to maintain the Cylinder at constant depth of indentation and the coefficient of friction are dependent on the velocity of rolling. The shape of the rolling friction versus velocity curve is a first approximation to the distribution curve of relaxation times, indicating that rolling friction measurements can be used to determine the distribution experimentally.

STATUS OF WRAP-AROUND. Anon. Printing Magazine 84, No. 9, September 1960, pp. 83, 107 (2 pages). A report on news on the subject which came out at the Craftsmen's 41st Annual Convention in Atlanta in August 1960. One item was the announcement of price reductions on duPont Dycril plates of from 5 to nearly 16%. Difficulties in metal plates are mentioned. The Miehle press for these plates is now in the field test stage.

TRENDS IN PRINTING MACHINERY SALES. Anon. Printing Magazine 84, No. 9, September 1960, p. 106 (1 page). A study of printing machinery sales as revealed in Census of Manufactures figures. A graph shows trends in Gross National Product, Printing Machinery, Typesetting and Casting, Letterpress and Offset presses, etc. The fact that the sales of printing machinery did not rise as fast as gross national product, and that typesetting machinery sales fell lead to some speculations on possible causes.

WHY DuBOIS PRESS DIDN'T BUILD A NEW PLANT. George E. Toles. Modern Lithography, 28, No. 9, September 1960, pp. 26-28, 135 (4 pages). Story on a 65 year old Rochester, New York combination plant which needed to move and had gone so far as to select property and approve plans before discovering an available, suitable, 7 year old building in a central location. Previous plans were scrapped. A plan of the new plant is given and the remodelling described. Pressroom, camera, stripping, plate-making and production departments are air conditioned to 78°F. and 45% R.H. 7 Illustrations.

WHEN CONSIDERING NEW EQUIPMENT, SHOULD YOU BUY OR LEASE? Edgar E. Jackson. Modern Lithography 28, No. 9, September 1960, pp. 44, 131 (2 pages). The distinction between buying and leasing is pointed out. The relationship of each to a company's financial condition, borrowing power, depreciation of equipment, negotiation of ultimate purchase, etc. are discussed.

RESULTS OF CUP RESEARCH ON FLEXIBLE PLATES. Anon. The British Printer 73, No. 9, September 1960, pp. 83-85 (3 pages). Cambridge University Press has developed and patented a flexible plate after about ten years of investigation. It gives faithful reproduction of type, line, and fine halftones. Plate has a hard surface and resilient backing. Other details are given. 3 Illustrations.